AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

What is claimed is:

1. – 5. (Cancelled)

6. (New) A phase locked loop circuit for a radio frequency transmit and receive apparatus, the circuit comprising:

a first voltage controlled oscillator which is operable to produce a first reference frequency signal;

a second voltage controlled oscillator which is operable to produce a second reference frequency signal;

a switchable set of dividers, coupled to receive the first and second reference frequency signals, and operable to produce a set of output reference frequency signals therefrom, a first subset of the set of output reference frequencies being derived from the first reference frequency, and a second subset of the set of output reference frequencies being derived from the second reference frequency; and

a voltage controlled oscillator (VCO) control means coupled to receive an external reference signal and a feedback signal, and operable to supply a control voltage to the first and second voltage controlled oscillators in dependence upon received external reference and feedback signals, so as to maintain desired first and second reference frequency signals;

wherein the first and second reference frequency signals are not equal in frequency to the output reference frequency signals in the set of output reference frequency signals; and

wherein the set of dividers comprises:

a first divider for selectively receiving the first or second reference frequency signals, and for producing a high band output reference frequency signal for a transmitter;

a second divider for receiving the second reference frequency signal and for producing a low band output reference frequency signal for the transmitter; and

a third divider for selectively receiving the first or second reference frequency signals and for producing local oscillator output reference frequency signals for a receiver, and for producing a feedback signal for supply to the VCO control means.

7. (New) The circuit of claim 6, wherein the set of dividers is operable to vary a modulus value thereof, thereby causing the first and second voltage controlled oscillators to be frequency modulated.

8. (New) The circuit of claim 7, wherein the modulus value has a fixed portion and a time-varying portion.

9. (New) The circuit of claim 8, wherein the set of output reference frequency signals have frequencies corresponding to frequencies required for GSM850, GSM900, DCS1800 and PCS1900 mobile telecommunications standards.

10. (New) The circuit of claim 9, wherein the first and second voltage controlled oscillators are selectively controlled by a phase locked loop.

11. (New) The circuit of claim 7, wherein the first and second voltage controlled oscillators are selectively controlled by a phase locked loop.

12. (New) The circuit of claim 11, wherein the set of output reference frequency signals have frequencies corresponding to frequencies required for GSM850, GSM900, DCS1800 and PCS1900 mobile telecommunications standards.

13. (New) The circuit of claim 12, wherein the set of dividers is operable to vary a modulus value thereof, thereby causing the first and second voltage controlled oscillators to be frequency modulated.

14. (New) The circuit of claim 13, wherein the modulus value has a fixed portion and a time-varying portion.

15. (New) The circuit of claim 6, wherein the first and second voltage controlled oscillators are selectively controlled by a phase locked loop.

16. (New) The circuit of claim 15, wherein the set of dividers is operable to vary a modulus value thereof, thereby causing the first and second voltage controlled oscillators to be frequency modulated.

17. (New) The circuit of claim 16, wherein the modulus value has a fixed portion and a time-varying portion.

18. (New) The circuit of claim 17, wherein the set of output reference frequency signals have frequencies corresponding to frequencies required for GSM850, GSM900, DCS1800 and PCS1900 mobile telecommunications standards.

19. (New) The circuit of claim 6, wherein the set of output reference frequency signals have frequencies corresponding to frequencies required for GSM850, GSM900, DCS1800 and PCS1900 mobile telecommunications standards.

20. (New) A method for use in phase locked loop circuit of a radio frequency transmit and receive apparatus, the method comprising the steps of:

producing a first reference frequency signal by a first voltage controlled oscillator;

producing a second reference frequency signal by a second voltage controlled oscillator;

receiving, by a switchable set of dividers, the first and second reference frequency signals, and producing a set of output reference frequency signals therefrom;

deriving a first subset of the set of output reference frequencies from the first reference frequency, and a second subset of the set of output reference frequencies from the second reference frequency, and

receiving, from a voltage controlled oscillator (VCO) control means, an external reference signal and a feedback signal operable to supply a control voltage to the first and second voltage controlled oscillators in dependence upon received external

reference and feedback signals, so as to maintain desired first and second reference frequency signals, wherein the first and second reference frequency signals are not equal in frequency to the output reference frequency signals in the set of output reference frequency signals, and

the set of dividers further performing the steps of:

selectively receiving, by a first divider, the first or second reference frequency signals, and producing a high band output reference frequency signal for a transmitter;

selectively receiving, by a second divider, the second reference frequency signal and producing a low band output reference frequency signal for the transmitter; and

selectively receiving, by a third divider, the first or second reference frequency signals and producing local oscillator output reference frequency signals for a receiver, and producing a feedback signal for supply to the VCO control means.

21. (New) The method of claim 20, further comprising the step of varying, by the set of dividers, a modulus value thereof, thereby causing the first and second voltage controlled oscillators to be frequency modulated.

22. (New) The method of claim 21, wherein the modulus value has a fixed portion and a time-varying portion.

23. (New) The method of claim 22, wherein the set of output reference frequency signals have frequencies corresponding to frequencies required for GSM850, GSM900, DCS1800 and PCS1900 mobile telecommunications standards.

24. (New) The method of claim 20, further comprising the step of selectively controlling the first and second voltage controlled oscillators by a phase locked loop.